

# WISCONSIN RIVER WATER QUALITY

## SYMPOSIUM

MARCH 29, 2012

STEVENS POINT, WISCONSIN





**The Act. The Clean Water Act,** as amended, 33 U.S.C. 1251 et seq. The TMDL program deals with Subsection 303(d) which states:

(1)(A) Each State shall identify those waters within its boundaries for which the effluent limitations required by section 301(b)(1)(A) and section 301(b)(1)(B) of this Act are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters.

(B) Each State shall identify those waters or parts thereof within its boundaries for which controls on thermal discharges under section 301 of this Act are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife.

(C) Each State shall establish for the waters identified in paragraph (1)(A) of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies under section 304(a)(2) of this Act as suitable for such calculation. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.

(D) Each State shall estimate for the waters identified in paragraph (1)(D) of this subsection the total maximum daily thermal load required to assure protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife. Such estimates shall take into account the normal water temperatures, flow rates, seasonal variations, existing sources of heat input, and the dissipative capacity of the identified waters or parts thereof. Such estimates shall include a calculation of the maximum heat input that can be made into each such part and shall include a margin of safety which takes into account any lack of knowledge concerning the development of thermal water quality criteria for such protection and propagation in the identified waters or parts thereof.

(2) Each State shall submit to the Administrator from time to time, with the first such submission not later than one hundred and eighty days after the date of publication of the first identification of pollutants under section 304(a)(2)(D) of this Act, for his approval the waters identified and the loads established under paragraphs (1)(A), (1)(B), (1)(C), and (1)(D) of this subsection. The Administrator shall either approve or disapprove such identification and load not later than thirty days after the date of submission. If the Administrator approves such identification and load, such State shall incorporate them into its current plan under subsection (e) of this section. If the Administrator disapproves such identification and load, he shall not later than thirty days after the date of such disapproval identify such waters in such State and establish such loads for such waters as he determines necessary to implement the water quality standards applicable to such waters and upon such identification and establishment the State shall incorporate them into its current plan under subsection (e) of this section.

(3) For the specific purpose of developing information, each State shall identify all waters within its boundaries which it has not identified under paragraph (1)(A) and (1)(B) of this subsection and estimate for such waters the total maximum daily load with seasonal variations and margins of safety, for those pollutants which the Administrator identifies under section 304(a)(2) of this Act as suitable for such calculation and for thermal discharges, at a level that would assure protection and propagation of a balanced indigenous population of fish, shellfish, and wildlife.

**Areawide agency.** An agency designated under section 208 of the Act, which has responsibilities for Water Quality Management(WQM) planning within a specified area of a State.

**Best Management Practice (BMP).** Methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters.

**Designated management agency (DMA).** An agency identified by a WQM plan and designated by the Governor to implement specific control recommendations.

**Indian Tribe.** Any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian reservation.

**Load allocation (LA).** The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. Wherever possible, natural and nonpoint source loads should be distinguished.

**Loading capacity.** The greatest amount of loading that a water can receive without violating water quality standards.

**Load or loading.** An amount of matter or thermal energy that is introduced into a receiving water; to introduce matter or thermal energy into a receiving water. Loading of pollutants may be either man-caused or natural (natural background loading).

**Pollution.** The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

**Total maximum daily load (TMDL).** The sum of the individual Wasteload Allocations(WLAs) for point sources and LAs for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. Best Management Practices or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. **Thus, the TMDL process provides for nonpoint source control tradeoffs.**

**Wasteload allocation (WLA).** The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation.

**Water quality limited segment (WQLS).** Any segment where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of the technology-based effluent limitations required by sections 301(b) and 306 of the Act.

**Water quality management (WQM) plan.** A State or areawide waste treatment management plan developed and updated in accordance with the provisions of sections 205(j), 208 and 303 of the Act and this regulation.

**Water Quality Standards (WQS).** Provisions of State or Federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Act.

*The following definitions are from the Federal Water Pollution Control Act, Section 502.*

**Discharge of a pollutant.** (A) Any addition of any pollutant to navigable waters from any point source. (B) Any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft.

**Effluent limitation.** Any restriction established by a state or the administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters of the contiguous zone or the ocean including schedules of compliance.

**Navigable waters.** Waters of the United States, including territorial seas.

**Point source.** Any discernible confined and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged, not including agricultural storm water discharges and return flows from irrigated agriculture.

**Pollutant.** Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

*Other Definitions*

**Allocation.** A portion that has been designated for a specific purpose or to particular person or things. **FWPCA.** The legal acronym for the Federal Water Pollution Control Act originally enacted in 1948 and amended on October 18, 1972, becoming known as the Clean Water Act.

**Impaired waterbody.** Any waterbody of the United States that does not attain water quality standards (as defined in 40 CFR part 131) due to an individual pollutant, multiple pollutants, pollution, or an unknown cause of impairment. Where a waterbody receives a thermal discharge from one or more point sources, impaired means that the waterbody does not have or maintain a balanced indigenous population of shellfish, fish, and wildlife.

**List of Impaired Waterbodies or "List".** The list of impaired waterbodies that States, Territories and authorized Tribes are required to submit to EPA pursuant to section 303(d) of the CWA

**Non-point source.** Any source from which pollution is discharged which is not identified as a point source, including, but not limited to urban, agricultural, or silvicultural runoff. Nonpoint source (NPS) pollution occurs when rainfall, snowmelt, or irrigation water runs over land, or through the ground, and picks up pollutants and deposits them into lakes, rivers and groundwater. Nonpoint pollutants and sources that threaten or impair designated uses in waterbodies include:

- Excess fertilizers (nutrients), herbicides, and insecticides from agricultural and residential and urban areas.
- Sediment (siltation, suspended solids), pesticides, pathogens (animal waste), from agricultural, and residential and urban areas.
- Oil, grease, and toxic chemicals from urban runoff and energy production;
- Sediment from improperly managed construction sites, crop and forest lands, and eroding streambanks;
- Bacteria and nutrients from livestock operations, pet wastes, and faulty septic systems.
- Atmospheric deposition, hydromodification, and habitat alteration are also sources of NPS pollution.

**Reasonable assurance.** Reasonable assurance means that you demonstrate that each wasteload allocation and load allocation in a TMDL will be implemented. For point sources regulated under section 402 of the Clean Water Act you must demonstrate reasonable assurance by procedures that ensure that enforceable National Pollutant Discharge Elimination System (NPDES) permits (including coverage to individual sources under a general NPDES permit) will be issued expeditiously to implement applicable wasteload allocations for point sources. For nonpoint sources you must demonstrate reasonable assurance by specific procedures and mechanisms that ensure load allocations for nonpoint sources will be implemented for that waterbody. Specific procedures and mechanisms for nonpoint sources must apply to the pollutant for which the TMDL is being established, must be implemented expeditiously and must be supported by adequate funding. Examples of specific procedures and mechanisms which may provide reasonable assurance for nonpoint sources include State, Territorial, and authorized Tribal regulations, local ordinances, performance bonds, contracts, cost-share agreements, memorandums of understanding, site-specific or watershed-specific voluntary actions, and compliance audits of best management practices.

**Source.** Any point of origin or beginning.

**Threatened waterbody.** Any waterbody of the United States that currently attains water quality standards, but for which existing and readily available data and information on adverse declining trends indicate that water quality standards will likely be exceeded by the time the next list of impaired or threatened waterbodies is required to be submitted to EPA. Where a waterbody is threatened by a thermal discharge, threatened means that the waterbody has a balanced indigenous population of shellfish, fish, and wildlife, but adverse declining trends indicate that a balanced indigenous population of shellfish, fish, and wildlife will not be maintained by the time the next list of impaired or threatened waterbodies is required to be submitted to EPA.

**Thermal discharge.** The discharge of the pollutant heat from a point source.

**Waterbody.** A geographically defined portion of navigable waters, waters of the contiguous zone, and ocean waters under the jurisdiction of the United States, including segments of rivers, streams, lakes, wetlands, coastal waters and ocean waters.

**TMDL: Total Maximum Delusions and Litigation?**  
**(Or: Is there another way to see it?)**



# Today's Wisconsin River: A Triumph of Regulation!





# There were TWO regulatory triumphs for the Wisconsin:

1. Cleaning up a century of pollution in the 1970s and 1980s
2. Regulating building on the Lower Wisconsin bluffs



**At Hat Rapids Dam**





**Fish kill**

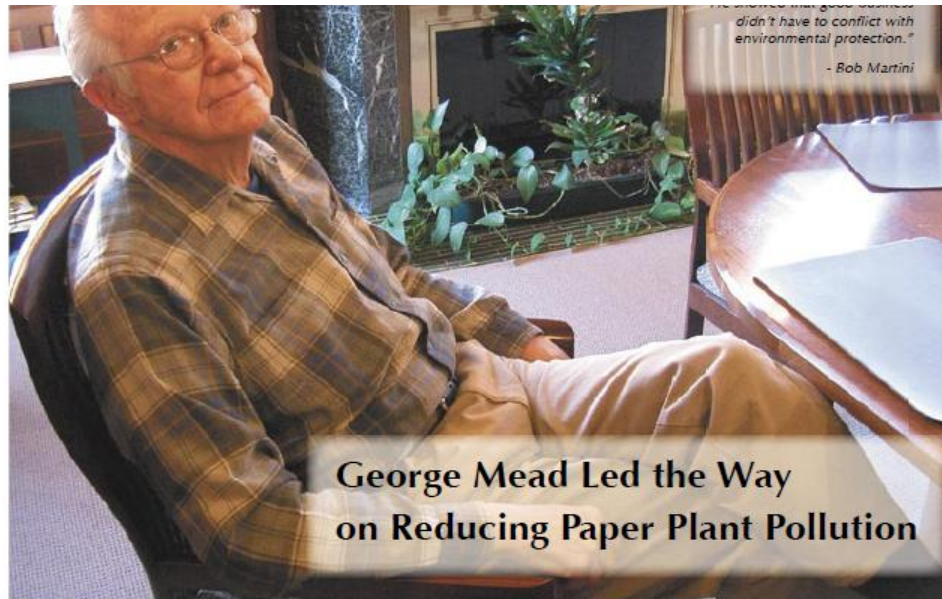


**Below Weyerhaeuser mill-- 1978**





**Confluence of Pelican and Wisconsin Rivers**



SPRING 2007



Denny Caneff  
Executive Director

Appleton. By 1952, he joined the family company as a chemical engineer focused on pulp making. He then managed the Wisconsin Rapids paper mill and by 1966 was tapped to head the company.

The Craft of Kraft

**"The decisions we made that reduced pollution were not only about pollution abatement, but also came from our customers wanting stronger fibers....."**



# Do regulations actually help business?

“Since the 1980s there has been a movement towards liberalization, coupled with the continued failure of the market to protect the environment as a public good.”

“The Impact of environmental innovations on firm performance is ambiguous.”

“

Yet even today there is conflicting evidence and alternative theories that might explain the ‘Porter hypothesis.’” (of Michael Porter, Harvard Business School economist who said well designed regulation could actually enhance competitiveness)



# The triumph of the Lower Wisconsin Riverway

Contentious, long, at times bitter

Result: BIPARTISAN, one-of-a-kind river land use regulatory scheme

You can still build in the river valley AND you can see scenes that Rueben Gold Thwaites saw

# Wisconsin River TMDL

## What if?

it finds that phosphorus comes  
largely from agricultural sources?

AND.....

# Wisconsin River TMDL

.....we have a poor history in this state of regulating farmers?

- “Voluntary” (except for permitted farms, aka CAFOs)
- State subsidy (aka cost-share)
- Strong political tradition for leaving farmers alone



# Regulating Agriculture: Let's focus and then let's do it.

**Start with the worst of the worst** (aka the 80-20 rule and “priority farms”)

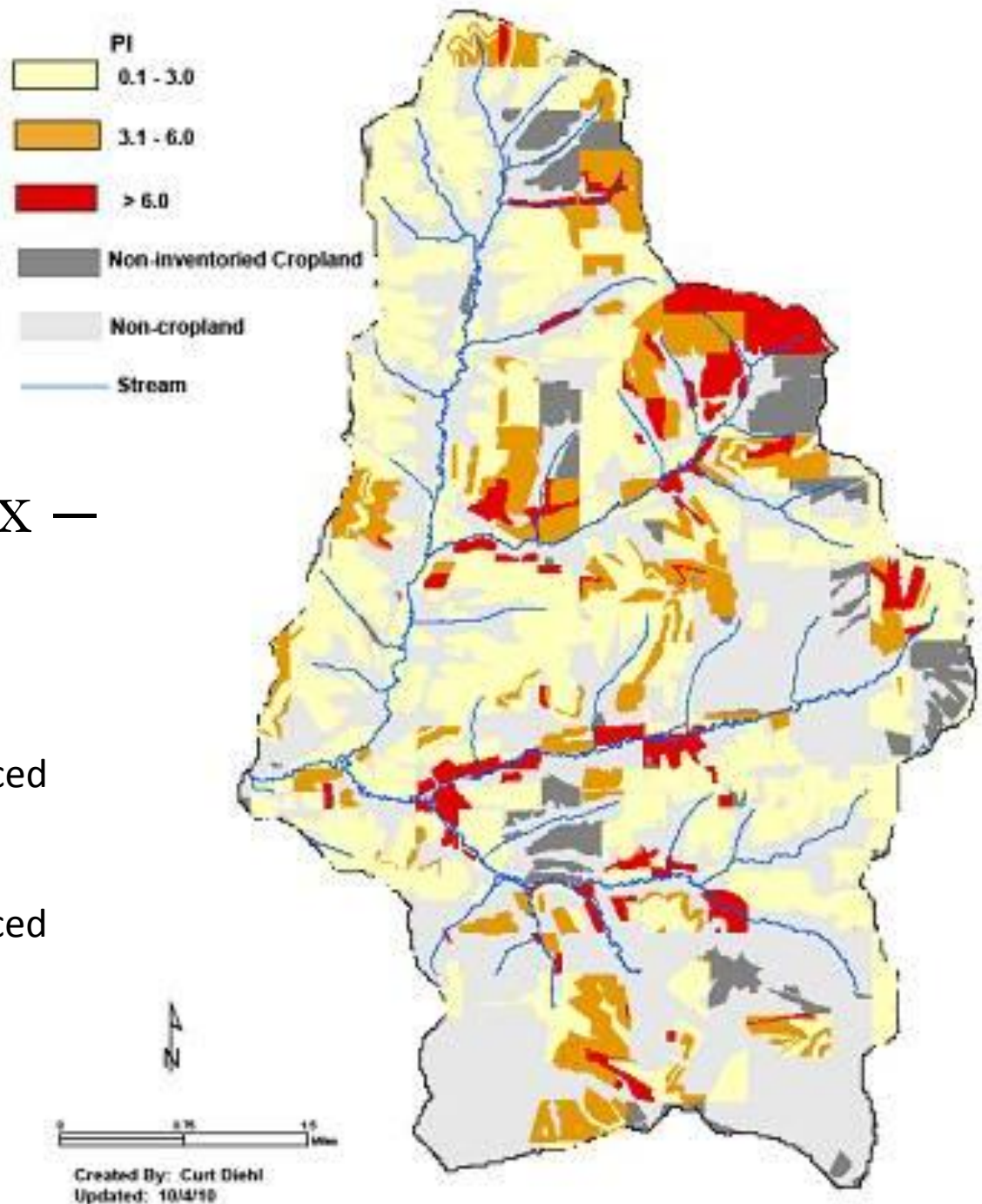
**Corollary to the 80-20 rule  
– Pleasant Valley/Dane County**



# Phosphorus Index – Pleasant Valley

12% of the total cropland produced  
60% of the phosphorus load

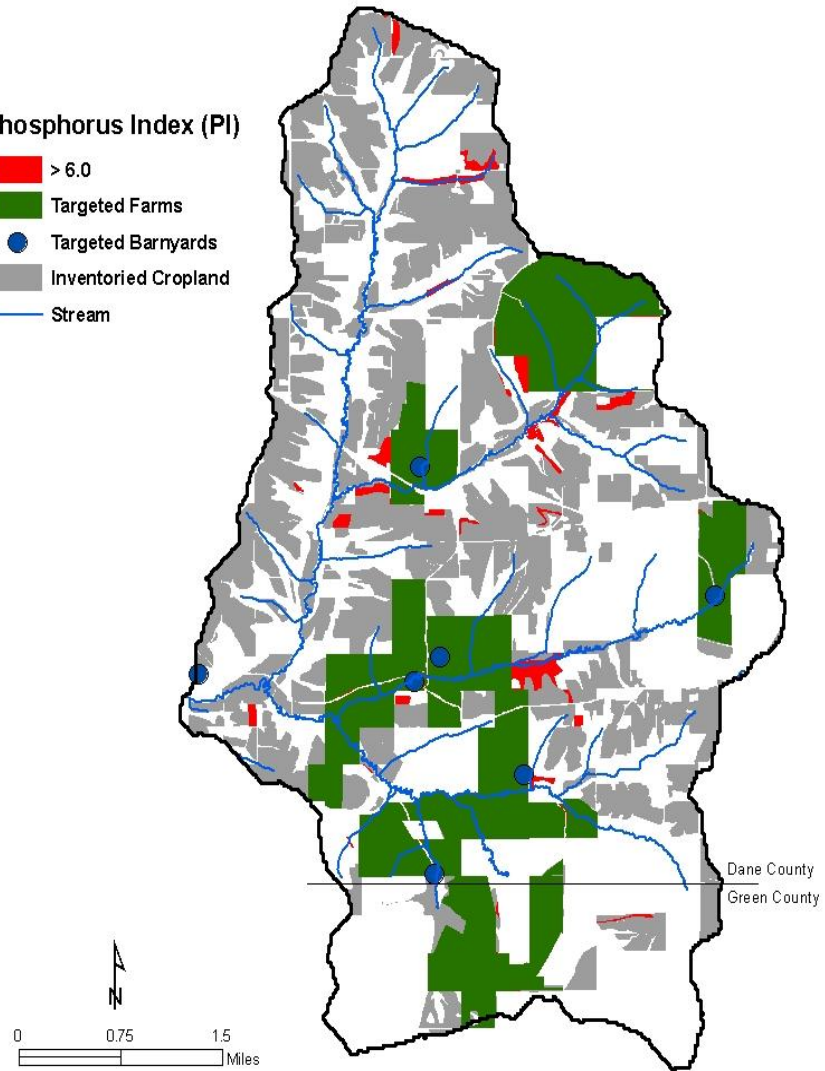
65% of the total cropland produced  
18% of the phosphorus load



# WI Phosphorus Index (PI) Pleasant Valley Watershed

## Phosphorus Index (PI)

- > 6.0
- Targeted Farms
- Targeted Barnyards
- Inventoried Cropland
- Stream



Created by: Dane County Department of Land and Water Resources



# Regulating Agriculture: Let's focus and then let's do it.

**Are our eyes on the right ball?** (Cows vs. cash grains -- 100s of thousands of acres going out of CRP)

**Start raising money NOW** (cost-share requirement). But let's have what is cost-shared stick next time.

**Corollary to the money issue:** adaptive management





# We need the people!

A crucial ingredient to cleaning up the Wisconsin River

**Conservation Lobby Day**

**Petenwell and Castle Rock Stewards  
“Pontoons and Politics”**

